ABSTRACT

A system is disclosed for performing measurements in a hazardous environment. In one embodiment the system comprises: a main device and a remote device having a programmable logic device (PLD). The main device is isolated from the hazardous environment, while the remote device is located within the hazardous environment. A cable is provided to transport at least one communication signal between the main device and the remote device, and the main device uses the communication signal to configure the PLD in the remote device. The remote device may also include a switch that passes the communication signal to a configuration terminal of the PLD before the PLD is configured, and that automatically blocks the communication signal from the configuration terminal after the PLD is configured. After the PLD is configured, the main device and PLD may both employ the communication signal to communicate in accordance with a predetermined communications protocol.